

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. - 16. (canceled)

17. (currently amended) A structured document processing system comprising:

a network composed of a server device and a plurality of client devices,

the server device storing a structured document composed of a plurality of elements which are hierarchically organized in a tree structure ~~structured~~, each of the elements being a constituent unit of the structured document, and each of the client devices storing a duplication of the structured document,

the server device comprising ~~[[:]]~~ an update manager for managing an update of the structured document using an updated minimum element of the structured document, the updated minimum element including an updated portion of the structured document, the server device including a transmission section that transmits the updated minimum element to one of the client devices.

18. (currently amended) The structured document processing system according to claim 17, wherein the ~~server device further comprises a transmission section, the update~~

manager instructs ~~instructing~~ the transmission section to transmit ~~[[an]]~~ the updated minimum element of the structured document ~~to a client device~~ when the structured document has been updated.

19. (currently amended) The structured document processing system according to claim 17, wherein the ~~server device further comprises a transmission section,~~ the update manager ~~instructing~~ instructs the transmission section to transmit update information to ~~a client device~~ one of the client devices when the structured document has been updated, the update information including identification information identifying ~~[[an]]~~ the updated minimum element of the structured document.

20. (original) The structured document processing system according to claim 17, wherein the update manager manages the update of the structured document using an update time at which the update of the structured document occurs,

wherein, when an update occurs at the node, the update manager instructing the transmission section to transmit update information to a client device, the update information including the update time.

21. (original) The structured document processing system according to claim 20, wherein, when a client device receives the update information from the server device, the client device updates the structured document stored therein based on the update information received.

22. (original) The structured document processing system according to claim 21, wherein each of the client devices comprises:

a comparator for comparing the update time of the update information received is later than an updated time of the structured document currently stored therein; and

a transmission controller for requesting transfer of an updated minimum element of the structured document when the update time of the update information received is later than the updated time of the structured document currently stored therein.

23. (original) The structured document processing system according to claim 17, wherein the update manager transmits an updated minimum element of the structured document to a client device at a plurality of predetermined times.

24. (original) The structured document processing system according to claim 17, wherein the update manager transmits update information to the client device at a plurality of predetermined times, the update information including identification information identifying an updated minimum element of the structured document.

25. (original) The structured document processing system according to claim 24, wherein the update manager manages the update of the structured document using an update time at which the update of the structured document occurs, the update information further includes the update time.

26. (original) The structured document processing system according to claim 17, further comprising:

a gateway server device performing protocol processing between the server device and each of the client devices,

wherein the server device transmits update information indicating that the structured document is updated to the gateway server device,

wherein the gateway server device comprises:

an structured document manager for managing the duplication of the structured document stored in the client device;

an update information receiver for receiving update information from the server device; and

an update controller for transmitting the update information received from the server device to the client device.

27. (original) The structured document processing system according to claim 26, wherein the update controller transmits the update information received from the server device to the client device at a plurality of predetermined times.

28. (original) The structured document processing system according to claim 26, wherein, when a client device receives the update information from the gateway server device, the client device updates the duplication of the structured document stored therein based on the update information received.

29. (original) The structured document processing system according to claim 28, wherein each of the client devices comprises:

a comparator for comparing the update time of the update information received is later than an updated time of the structured document currently stored therein; and

a transmission controller for requesting transfer of an updated minimum element of the structured document when the update time of the update information received is later than the updated time of the structured document currently stored therein.

30. (original) The structured document processing system according to claim 17, further comprising:

a gateway server device performing protocol processing between the server device and each of the client devices,

wherein the server device transmits update information including an update time and the updated minimum element to the gateway server device,

wherein the gateway server device comprises:

an structured document storage for storing the duplication of the structured document stored in the client device;

an structured document manager for managing the duplication of the structured document for the client device and an update time thereof;

an update information receiver for receiving the update information from the server device; and

an update controller for transmitting the updated minimum element of the structured document to a client device having the update time of the structured document stored therein, which is later than the update time included in the update information received from the server device.

31. - 46. (canceled)

47. (currently amended) A structured document updating method in a network composed of a server device and a plurality of client devices, the server device storing a structured document composed of a plurality of elements which are hierarchically organized in a tree structure ~~structured~~, each of the elements being a constituent unit of the structured document, and each of the client devices storing a duplication of the structured document, the method comprising the steps of:

at the server device,

a) managing an update of the structured document composed of the plurality of elements which are hierarchically organized in the tree structure using an updated minimum element of the structured document, the updated minimum element including an updated portion of the structured document; and

b) notifying the client devices on the network that the structured document is updated when a part of the structured document has been changed.

48. (original) The structured document updating method according to claim 47, further comprising the steps of:

at a client device receiving an updated minimum element of the structured document from the server device,

c) updating a corresponding minimum element of the structured document stored therein using the updated minimum element received.

49. (original) The structured document updating method according to claim 47, wherein in the step (a), the update of the information is managed using an update time at which the update of the information occurs,

wherein the step (b) comprises the step of:

transmitting update information to the client devices, the update information including the update time.

50. (original) The structured document updating method according to claim 49, further comprising the step of:

at a client device receiving the update information from the server device,

c) updating the information stored therein based on the update information received.

51. (original) The structured document updating method according to claim 50, wherein the step (c) comprises the steps of:

determining whether the update time of the update information received is later than an updated time of the structured document currently stored therein; and

when the update time of the update information received is later than an updated time of the structured document currently stored therein, requesting transfer of an updated minimum element of the structured document.

52. (original) The structured document updating method according to claim 47, wherein an updated minimum unit of the structured document is transmitted to the client devices at a plurality of predetermined times.

53. (original) The structured document updating method according to claim 47, wherein update information is transmitted to the client devices at a plurality of predetermined times, the update information including identification information identifying an updated minimum unit of the structured document.

54. (original) The structured document updating method according to claim 53, wherein the update of the information is managed using an update time at which the update of the structured document occurs, the update information further includes the update time.

55. (original) The structured document updating method according to claim 47, wherein the network further comprises a gateway server device performing protocol processing between the server device and each of the client devices,



the method further comprising the steps of:

at the gateway server device,

c) managing the structured document stored in each of the client devices;

d) receiving an update information from the server device; and

e) transmitting the update information received from the server device to a client device.

56. (original) The structured document updating method according to claim 55, wherein in the step (e), the update information received from the server device is transmitted to the client device at a plurality of predetermined times.

57. (original) The structured document updating method according to claim 55, further comprising the steps of:

at the client device receiving the update information from the gateway server device,

updating the structured document stored therein based on the update information received.

58. (original) The structured document updating system according to claim 57, further comprising the steps of:

at the client device,

determining whether the update time of the update information received is later than an updated time of the structured document currently stored therein; and

when the update time of the update information received is later than an updated time of the structured document currently stored therein, using the identification information to request transfer of an updated minimum unit of the structured document from the gateway server device.

59. (original) The structured document updating system according to claim 47, wherein the network further comprises a gateway server device performing protocol processing between the server device and each of the client devices,

the method further comprising the steps of:

at the gateway server device,

storing the structured document stored in each of the client devices in an information storage;

managing the structured document for each of the client devices and an update time thereof;

receiving an update information from the server device at which an update of the structured document occurs;

selecting a client device having the update time of the structured document stored therein, which is later than the update time included in the update information received from the server device; and

transmitting the updated minimum unit of the structured document identified by the identification information included in the update information received from the server device, to the selected client device.

60. (canceled)

61. (currently amended) A storage medium storing a computer program for updating a structured document in a network composed of a server device and a plurality of client devices, the server device storing a structured document composed of a plurality of elements which are hierarchically organized in a tree structure ~~structured~~, each of the elements being a constituent unit of the structured document, and each of the client devices storing a duplication of the structured document, the computer program at the server device, comprising the steps of:

a) managing an update of the structured document composed of the plurality of elements which are hierarchically organized in the tree structure using an updated minimum element of the structured document, the updated minimum element including an updated portion of the structured document; and

b) notifying the client devices on the network that the structured document is updated when a part of the structured document has been changed.